

Ts10S

Tenkasi District Common Examinations  
Common Half Yearly Examination - December 2022



21.12.2022

Standard 10

Time: 3.00 Hrs.

SCIENCE

Marks: 75

## PART - I

\* Answer all the questions.

12×1=12

\* Choose the most appropriate answer from the given four alternatives.

- 1) Newton's III law is applicable
  - a) for a body is at rest
  - b) for a body in motion
  - c) both a and b
  - d) only for bodies with equal masses
- 2) Speed of light in air or vacuum is \_\_\_\_\_
  - a)  $330 \text{ ms}^{-1}$
  - b)  $3 \times 10^8 \text{ ms}^{-1}$
  - c)  $3.48 \times 10^7 \text{ ms}^{-1}$
  - d)  $348 \text{ ms}^{-1}$
- 3) Kilowatt hour is the unit of
  - a) resistivity
  - b) conductivity
  - c) electrical energy
  - d) electrical power
- 4) Velocity of sound in the atmosphere of a planet is  $500 \text{ ms}^{-1}$ . The minimum distance between the sources of sound and the obstacle to hear the echo, should be
  - a) 17m
  - b) 20m
  - c) 25m
  - d) 50m
- 5) Artificial radioactivity was discovered by
  - a) Bequerel
  - b) Irene Curie
  - c) Roentgen
  - d) Neils Bohr
- 6) In the nucleus of  ${}_{20}\text{Ca}^{40}$ , there are
  - a) 20 protons and 40 neutrons
  - b) 20 protons and 40 neutrons
- 7) \_\_\_\_\_ is a relative peroxidic property.
  - a) Atomic radii
  - b) Ionic radii
  - c) Electron affinity
  - d) Electro negativity
- 8) The brain of leech lies above the
  - a) Mouth
  - b) Buccal cavity
  - c) Pharynx
  - d) Crop
- 9) The centromere is found at the centre of the \_\_\_\_\_ chromosome.
  - a) Telocentric
  - b) Metacentric
  - c) Sub-metacentric
  - d) Acrocentric
- 10) The best way of direct dating fossils of recent origin is by
  - a) Radio-carbon method
  - b) Uranium lead method
  - c) Potassium - argon method
  - d) Both (a) and (c)
- 11) Tobacco consumption is known to stimulate secretion of adrenaline. The component causing this could be
  - a) Nicotine
  - b) Tannic acid
  - c) Curcumin
  - d) Leptin
- 12) Which software is used to create animation?
  - a) Paint
  - b) PDF
  - c) MS word
  - d) Scratch

## PART - II

Note: Answer any seven questions.

7×2=14

[Question No. 22 is compulsory]

- 13) 'X' rays should not be taken often give the reason.
- 14) Explain Esterification reaction.
- 15) Name three improved characteristics of wheat that helped India to achieve high productivity.
- 16) What precautions can be taken for preventing heart disease?
- 17) How are e-wastes generated?
- 18) Write a short note on editor and its main parts.
- 19) Name two maize hybrids rich in amino acid lysine.
- 20) Why does the sky appear in blue colour?
- 21) What is the importance of valves in the heart?
- 22) Vinu dissolves 50g of sugar in 250ml of hot water, Sarath dissolves 50g of same sugar in 250 ml of cold water. Who will get faster dissolution of sugar? and why?

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## PART - III

Note: Answer any seven questions.

7×4=28

[Question No. 32 is compulsory]

23) Fill in the blanks:

- 1) Position is an \_\_\_\_\_.
- 2) 100% pure ethanol is called \_\_\_\_\_.
- 3) \_\_\_\_\_ causes stomatal closure.
- 4) Blood cancer is called \_\_\_\_\_.

24) Analogy type questions:

- 1) Chemotherapy : Chemicals  
Radiation therapy : \_\_\_\_\_
- 2) Hyper tension : Hyper cholesterolemia  
Glycosuria : \_\_\_\_\_
- 3) Nuclear fusion : Extreme temperature  
Nuclear fission : \_\_\_\_\_
- 4) Increasing crops : Radio phosphorous  
Effective functioning of heart : \_\_\_\_\_

25) Match:

- a) Co-60 - Age of fossil
- b) I-131 - Function of heart
- c) Na-24 - Leukemia
- d) C-14 - Thyroid disease

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26) State whether True or False, if false write the correct statement:

- 1) Cancer causing genes are called oncogenes.
  - 2) AIDS is not transmitted by contact with a patient's clothes.
  - 3) On dipping a pH paper in a solution it turns into yellow, then the solution is basic.
  - 4) Nuclear fusion is more dangerous than nuclear fission.
- 27) Cell phone towers should be placed far away from the residential area. Why?
- 28) Enumerate the importance of forest.
- 29) Differentiate between outbreeding and inbreeding.
- 30) 1) State Ohm's law.  
2) What is the role of the earth wire in domestic circuits?
- 31) Differentiate between Nuclear fission and Nuclear fusion.
- 32) Three resistors of resistance 5 ohm ( $5\Omega$ ), 3 ohm ( $3\Omega$ ), and 2 ohm ( $2\Omega$ ) are connected in series with 10V battery. Calculate their effective resistance and the current flowing through the circuit.

## PART - IV

Note: Answer all the questions.

3×7=21

- 33) A) i) Compare the properties of Alpha, Beta, Gamma radiations.  
ii) Which material protects us from radiation?

(OR)

- B) i) List any five properties of light.  
ii) What is refractive index?

- 34) A) i) What is homologous series? Give any three of its characteristics.  
ii) Name the simplest ketone and give its structural formula.

(OR)

- B) i) How is ethanol manufactured from sugarcane?  
ii) Give any two uses of ethanol.

- 35) A) What are the sources of solid waste? How are solid wastes managed?

(OR)

- B) i) Changes in life style is a risk factor for occurrence of cardiovascular diseases. Can it be modified? If yes suggest measures for prevention.  
ii) How does insulin deficiency occur?